Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) An assembly, comprising:

a cylinder and a piston assembly housed within the cylinder and configured for reciprocal, linear in space and sinusoidal in time motion relative to the cylinder, the piston assembly and cylinder including a magnet and coil configured to undergo relative motion with the relative motion of the piston assembly and cylinder,

a transition arm, and

a rotating member coupled to the piston assembly by the transition arm.

2. (Original) The assembly of claim 1 wherein the magnet is coupled to the piston assembly for reciprocal motion therewith.

3. (Original) The assembly of claim 1 wherein the coil is coupled to the cylinder.

4. (Original) The assembly of claim 1 wherein the piston assembly is single-ended.

5. (Original) The assembly of claim 1 wherein the piston assembly is double-ended.

6. (Original) The assembly of claim 5 wherein a magnet and coil are positioned at both ends of the double-ended piston assembly.

7. (Original) The assembly of claim 5 wherein one end of the double-ended piston assembly is configured to function as a gasoline engine.

8. (Original) The assembly of claim 5 wherein one end of the double-ended piston assembly is configured to function as a pump.

9. (Original) The assembly of claim 1 wherein the piston assembly has a piston head at one end and a guide rod at the other end.

10. (Original) The assembly of claim 1 wherein the rotating member is coupled to the piston assembly such that alternating current is produced at the coil at a revolving frequency of the rotating member.

11. (Original) The assembly of claim 1 wherein the assembly comprises three 120° spaced cylinders and piston assemblies.

12. (Original) The assembly of claim 1 wherein the coil is positioned inside the magnet.

13. (Original) The assembly of claims 1 and 12 wherein the coil is positioned outside the magnet.

14. (Original) The assembly of claim 1 comprising a pump or compressor wherein the piston assembly includes a piston head coupled to the magnet and coil by a piston rod.

15. (Original) The assembly of claim 14 further comprising a second piston assembly driven by the same magnet and coil.

16. (Original) The assembly of claim 1 wherein the rotating member comprises a flywheel.

17. (Original) The assembly of claim 1 wherein the transition arm is coupled to a stationary support.

18. (Original) The assembly of claim 17 wherein the support comprises a U-joint.

19. (Original) The assembly of claim 1 configured for converting between phases.

20. (Original) A method of generating power, comprising:

providing a rotating member coupled to a piston assembly by a transition arm, the piston assembly being housed within a cylinder and configured for reciprocal, linear in space and sinusoidal in time motion relative to the cylinder, the piston assembly and cylinder including a magnet and coil configured to undergo relative motion with the relative motion of the piston assembly and cylinder, and

rotating the rotating member such that power is generated by the magnet and coil.

21. (Original) A method comprising:

providing a rotating member coupled to a piston assembly by a transition arm, the piston assembly being housed within a cylinder and configured for reciprocal, linear in space and sinusoidal in time motion relative to the cylinder, the piston assembly and cylinder including a magnet and coil configured to undergo relative motion with the relative motion of the piston assembly and cylinder, and

applying power to the coil to cause the rotating member to rotate.

22. (New) A variable stroke and clearance assembly, comprising:

a piston coupled to a rotating member and a universal joint, motion of the rotating member varying a stroke of the piston, and motion of the universal joint varying a clearance distance of the piston, and

a linkage coupling the rotating member to the universal joint such that motion of the rotating member and motion of the universal joint are related.

23. (New) The assembly of claim 22 wherein the linkage comprises a linear linkage.

24. (New) The assembly of claim 22 wherein the clearance distance is substantially equal to zero at two points of piston stroke.

25. (New) The assembly of claim 22 wherein the linkage comprises a non-linear linkage.

26. (New) The assembly of claim 22 wherein the clearance distance is near zero over a range of piston stroke.

27. (New) The assembly of claim 22 wherein the clearance distance comprises less than approximately 23 mils.

28. (New) The assembly of claim 27 wherein the range of piston stroke comprises about 330 to 1000 mils.

29. (New) The assembly of claim 22 wherein the clearance distance increases at a low stroke to reduce starting torque.

30. (New) The assembly of claim 22 wherein the linkage comprises a first arm, a second arm, and a third arm.

31. (New) The assembly of claim 30 wherein the linkage further comprises a non-linear linkage connected between the first arm and the second arm.

32. (New) The assembly of claim 31 wherein the non-linear linkage includes a rod and a triangle.

33. (New) The assembly of claim 22 further comprising a plurality of pistons coupled to the rotating member and the support.

34. (New) The assembly of claim 33 wherein two pistons are circumferentially arranged about the rotating member and the support.

35. (New) The assembly of claim 22 further comprising a guide rod coupled to the piston.

36. (New) The assembly of claim 22 comprising a compressor.

37. (New) The assembly of claim 22 comprising an integral motor/compressor.

38. (New) The assembly of claim 16 further comprising a rotor that rotates with the rotating member.

39. (New) The assembly of claim 37 wherein the linkage includes a gas piston linked to the rotating member for varying the stroke of the piston.

40. (New) The assembly of claim 22 wherein the rotating member comprises a flywheel.

41. (New) The assembly of claim 22 wherein the support comprises a U-joint.

42. (New) The assembly of claim 22 wherein the rotating member is configured for linear motion.

43. (New) The assembly of claim 22 wherein the support is configured for linear motion.

44. (New) A method, comprising:

varying a stroke of a piston by motion of a rotating member coupled to the piston, and

varying a clearance distance of the piston by motion of a universal joint coupled to the piston, the rotating member and the universal joint being coupled by a linkage such that motion of the rotating member and motion of the universal joint are related.

45. (New) An integral assembly, comprising:

a first assembly including a rotor and a stator, and

a second assembly including a piston, a rotating member, and a transition arm coupling linear motion of the piston and rotary motion of the rotating member, the transition arm being supported by a universal joint, wherein the rotor and the rotating member are coupled such that rotation of one of the rotor and rotating member causes rotation of the other of the rotor and rotating member.

46. (New) The assembly of claim 45 further including a linkage coupled to the piston for changing a stroke of the piston.

47. (New) The assembly of claim 45 wherein the transition arm is configured to be movable relative to the rotating member.

48. (New) The assembly of claim 45 further comprising a linkage coupling the rotating member to the transition arm such that motion of the rotating member and the transition arm are related.

49. (New) The assembly of claim 22 wherein the linkage is configured such that the clearance distance can be maintained substantially constant as the stroke is varied.

50. (New) The method of claim 44 further comprising maintaining the clearance distance of the piston substantially constant as the stroke is varied.

51. (New) A variable stroke and clearance assembly, comprising:

a piston coupled to a transition arm, the transition arm having a first section coupled to a rotating member and a second section coupled to a support, motion of the rotating member varying a stroke of the piston, and motion of the support varying a clearance of the piston, and

a linkage coupling the rotating member to the support such that motion of the rotating member and motion of the support are inversely related